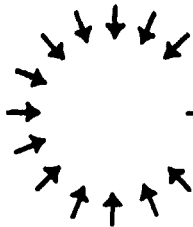


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→ **BUSINESS AND TECHNOLOGICAL SYSTEMS, INC.**

Telephone: 301/794-8800

AEROSPACE BUILDING, Suite 440
10210 GREENBELT ROAD
SEABROOK, MARYLAND 20801

BTS7-83-66/rb
1047

15 February 1983

Dr. H. H. Thomas
Technical Officer, Code 922
NASA/Goddard Space Flight Center
Greenbelt, Maryland 20771

Re: First Quarterly Report - Contract NAS 5-27488
for the Period 12 October 1982 - 31 December 1982

Dear Dr. Thomas:

Enclosed herewith are 5 copies of the subject First Quarterly Report.

Sincerely yours,

Ronald H. Estes
Project Manager



Enclosures

cc: Mr. Alton D. Payne, Jr., Contracting Officer, Code 289
Publications Branch, Code 251
Office of Patent Counsel, Code 204

(E83-10210) REMANENT MAGNETIZATION AND
THREE-DIMENSIONAL DENSITY MODEL OF THE
KENTUCKY ANOMALY REGION Quarterly Report,
12 Oct. - 31 Dec. 1982 (Business and
Technological Systems, Inc.) 3 p

N83-21452

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Prepared by
BUSINESS AND TECHNOLOGICAL SYSTEMS, INC.

Aerospace Building, Suite 440

10210 Greenbelt Road

Seabrook, Maryland 20706

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First Quarterly Report
REMANENT MAGNETIZATION AND
THREE-DIMENSIONAL DENSITY MODEL
OF THE KENTUCKY ANOMALY REGION
For the period
12 October 1982 - 31 December 1982

Under
Contract NAS 5-27488

Submitted to
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Goddard Space Flight Center
Greenbelt, Maryland 20771

1.0 TECHNICAL ACCOMPLISHMENTS AND SCHEDULING

During the first quarter of the contract period, the following work has been carried out.

1.1) Existing software has been modified to handle detailed 3-D density and magnetization models of the Kentucky body and is being tested. Gravity and magnetic anomaly data sets are ready to use. A preliminary block model is under construction using the 1:1,000,000 maps and is nearly ready for computation.

1.2) An x-y grid to overlay the 1:2,500,000 Albers maps and keyed to the 1:1,000,000 scale block models has been created. Software has been developed which will generate a smoothed Magsat data set over this grid; this will be input to an inversion program which will generate the regional magnetization model. Further, the contribution of the Kentucky body to the satellite altitude magnetic anomaly will be computed and displayed over this grid.

1.3) The regional-scale 1:2,500,000 map mosaic is being digitized using previous magnetization models, the U. S. magnetic anomaly map, and regional tectonic maps as a guide. This will form the basis for the regional magnetization model.

1.4) The work of the contract is proceeding on schedule, with no unforeseen difficulties. In the next quarter we anticipate the completion of the tasks involving the detailed model and considerable progress on those involving the regional models.

2.0 FISCAL AND PLANNING DATA

Contract Price

Prior Expenditure

Expenditure This Quarter

Total Expenditure To Date

Amount Remaining

Total Hours Expended

6

Amount Next Quarter (est.)

Amount Required to Complete Work